GOVERNMENT OF INDIA
POWER
LOK SABHA

UNSTARRED QUESTION NO:4675
ANSWERED ON:30.03.2017
Efficiency of Coal based Power Plants
Tharoor Dr. Shashi

Will the Minister of POWER be pleased to state:

(a) whether the Government is aware that studies done by the Centre for Science and Environment have shown that the efficiency of India's coal based power plants is one of the lowest among major coal-based thermal power generating countries;

(b) if so, the details thereof;

(c) whether the Government proposes to take any measures to improve the efficiency of these plants while at the same time improving the air quality in the vicinity of these plants;

(d) if so, the details thereof including budgetary allocations for the same; and

(e) if not, the reasons therefor?

Answer

THE MINISTER OF STATE (INDEPENDENT CHARGE) FOR POWER,
COAL, NEW & RENEWABLE ENERGY AND MINES

(SHRI PIYUSH GOYAL)

(a) & (b) : The efficiency of Thermal Power Plants in the country is comparatively lower than other countries due to inferior quality of coal and higher ambient air temperature and higher cooling water temperature in India.

(c) to (e) : The steps taken by Government to improve the efficiency of coal based thermal power plants & improve the air quality in the vicinity of these plants are as under:

i) Supercritical technology has already been adopted for thermal power generation. The design efficiency of Supercritical units is about 5% higher than typical 500 MW subcritical units and these (supercritical) units are likely to have correspondingly lower fuel consumption and CO2 emissions in ambient air. A capacity addition of 39,710 MW based on supercritical technology has already been achieved and 48,060 MW of supercritical is in the pipeline.
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(ii) All Ultra Mega Power Projects (UMPPs) are required to use supercritical technology.

(iii) Coal based capacity addition during 13th Plan shall be through super-critical units.

(iv) Indigenous research is being pursued for development of Advanced Ultra Supercritical Technology (A-USC) with targeted efficiency improvement of about 10% over supercritical unit. Indira Gandhi Centre for Atomic Research (IGCAR), NTPC and BHEL have signed an MoU in August 2010 for development of 800 MW A-USC indigenous demonstration plant with main steam pressure of 310 kg/cm2 and temperature of 710/ 720 deg C.

(v) A capacity of about 7751.94 MW of old and inefficient unit has already been retired till date.

(vi) To facilitate State Utilities/IPPs to replace old inefficient coal based thermal units with supercritical units, Ministry of Coal, Government of India has formulated a policy of automatic transfer of LOA/Coal linkage (granted to old plants) to new (proposed) super-critical units.

(vii) Perform Achieve and Trade (PAT) Scheme under National Mission on Enhanced Energy Efficiency is under implementation by BEE (Bureau of Energy Efficiency). In PAT cycle−II, individual target for improving efficiency has been assigned to 154 thermal power stations.

(viii) High efficiency Electrostatics Preceptor (ESP) are installed to capture Particulate Matters (Fly ash) from Flue gases.

(ix) Low NOX burners are installed for reducing NOx emission from flue gases.

(x) SO2 emission control is achieved through dispersion of flue gases through tall stacks (275 metres) to reduce the concentration of

polluting gases at ground level.

Funds for measures taken to improve efficiency and air quality are arranged by the Power Developers.

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